

CITY OF BEACON WATER DEPARTMENT
470 Liberty Street, Beacon, New York 12508
Phone: (845) 831-3136 Fax: (845) 831-3185

Matthew Fezza – Chief Water Treatment Plant Operator

2016 Annual Water Quality Report
Public Water Supply ID #1302760

INTRODUCTION

To comply with State regulations, The City of Beacon will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the needs to protect our drinking water sources. Last year, your tap water met all State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to state standards.

If you have any questions about this report or concerning your drinking water, please contact Matthew Fezza at (845)-831-3185. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled City Council meetings. Beacon City Council meetings are held the first and third Monday of the month at the Municipal Center – 1 Municipal Plaza, Beacon NY.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's

regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water sources consist of three surface sources – Cargill, Mt. Beacon, and Melzingah reservoirs, and three ground water sources – City of beacon wells 1 & 2 and Village of Fishkill well 8. During 2016, our system did not experience any restrictions of our water sources. The water from these sources is blended in various ratios depending on source condition and demand for water. The blended water is then treated at the water filtration plant which is located at 470 Liberty Street, Beacon NY. The current capacity of the plant is 4 million gallons per day. Our average flow for 2016 was 2.679 million gallons per day. Our maximum day withdrawal from 2016 was 3.37 million gallons per day. Chemicals are added to the blended water to facilitate filtration. The water is then filtered and chemicals are added for disinfection and corrosion control. The water is then pumped to the distribution entry point tank. The following chemicals, including their purpose and amounts, were used to treat our water in 2016: Alum- coagulant for filtration (126,829 lbs); Polymer- coagulant aid (393 lbs); Zinc Orthophosphate- corrosion control (10,847 lbs); Chlorine- disinfection (18,194 lbs).

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to our drinking water sources were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. **The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to the consumers is, or will become contaminated.** The source water assessments provide resource managers with additional information for protecting source waters into the future.

The source water assessment has rated our water sources as having an elevated susceptibility to microbials, nitrates, industrial solvents, and other industrial contaminants. These ratings are due primarily to the close proximity of the wells to permitted discharge facilities (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government), and the residential land use and related activities in the assessment area. In addition, the wells draw from fractured bedrock and the overlying soils may not provide adequate protection from potential contamination, and are located in an area which is prone to flooding. The county and state health departments will use this information to direct future water protection activities. These may include water quality monitoring, resource management, planning, and educational programs.

FACTS AND FIGURES

Our water system serves roughly 15,000 people, not including Downstate Correctional and Fishkill Correctional Facilities. There is an estimated 5,000 service connections in the City of Beacon. The total water produced in 2016 was 978,745,000 gallons. The daily average of water treated and pumped into the distribution system was 2,679,000 gallons. Our highest single day was 3,370,000 gallons. The amount of water delivered to customers was accounted for as follows: Residential and Commercial – 355,996,664 gallons, Town of Fishkill – 95,588,416 gallons, Department of Corrections – 218,116,000 gallons. This leaves an unaccounted water amount of 309,043,920 gallons. Unaccounted for water is water lost due to system leaks, water main breaks, use in municipal buildings and operations, system flushing, fire department uses, meter error, and theft of service.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic compounds. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Dutchess County Health Department at 845-486-3404.

TABLE OF DETECTED CONTAMINANTS

MICROBIOLOGICAL CONTAMINANTS

Contaminant	Violation Yes/No	Date	Level Detected	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Total Coliform	No	11/22/16	0 Positive samples	N/A	0	MCL= 2 or more positive samples	Naturally present in the environment
Turbidity (1) (See Note 1)	No	3/22/16	0.15	NTU	N/A	TT= <0.3 NTU	Soil Runoff
Turbidity (1) (See Note 1)	No	2016	100%	NTU	N/A	TT=95% of samples <0.3 NTU	Soil Runoff

Table of Detected Contaminants continued on next page.

DISINFECTION BYPRODUCTS

Contaminant	Violation Yes/No	Date	Level Detected (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Total Trihalo-methanes	No	11/14 2016	51.6 (21.2-60.4)	ug/l	N/A	MCL=80	Byproduct of drinking water chlorination needed to kill harmful organisms. TTHM's are formed when source water contains large amounts of organic matter
Haloacetic Acids	No	11/14 2016	27.8 (2.2-31.6)	ug/l	N/A	MCL=60	Byproduct of drinking water disinfection needed to kill harmful organisms

INORGANIC CONTAMINANTS

Contaminant	Violation Yes/No	Date	Level Detected	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Sodium	No	9/27/ 2016	16	mg/l	N/A	Dietary Restrictions- 20 mg for severe, 270 mg for moderate	Road Salt; water softeners; naturally occurring; animal waste
Chloride	No	9/27/ 2016	38.8	mg/l	N/A	MCL =250	Naturally occurring, Road salt contaminant
Barium	No	8/24/ 2016	0.031	mg/l	2	MCL =2	Discharge of drilling wastes; discharges from metal refineries; erosion of natural deposits
Nitrate	No	7/19/ 2016	0.115	mg/l	10	MCL =10	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits.

Contaminant	Violation Yes/No	Date	Level Detected (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source Of Contamination
Lead See Note 3	No	8/24/2014	0.002 (0-0.005)	mg/l	0	0.015	Corrosion of household plumbing systems; erosion of natural deposits
Copper See Note 2	No	7/10/2014	0.328 (0.042-0.620)	mg/l	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Notes

1 – Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement (0.15 NTU) for the year occurred on March 25, 2016. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. Although March was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

2 – The level presented represents the 90th percentile of the 10 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, thirty samples were collected at your water system and the 90th percentile value was at 8 Ellen Ct. with a value of 0.347 mg/l. The action level for copper was not exceeded at any of the sites tested.

3- The level presented represents the 90th percentile of the thirty samples collected. The action level for lead was not exceeded at any of the sites.

DEFINITIONS

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Nanograms per liter (ng/l): Corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).

Picograms per liter (pg/l): Corresponds to one part per of liquid to one quadrillion parts of liquid (parts per quadrillion – ppq).

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

Millirems per year (mrem/yr): A measure of radiation absorbed by the body.

Million Fibers per Liter (MFL): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State. We are required to present the following information on lead in drinking water:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your homes plumbing. The City of Beacon is responsible for providing high quality drinking water, but cannot control the variety of material used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize

exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2016, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

DO I NEED TO TAKE ANY SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

INFORMATION FOR NON-ENGLISH SPEAKING RESIDENTS

Spanish

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

WHY SAVE WATER AND HOW TO AVOID WASTING IT

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ◆ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ◆ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ◆ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ◆ Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- ◆ Turn off the tap when brushing your teeth.
- ◆ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- ◆ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- ◆ Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes. If it moved, you have a leak.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.